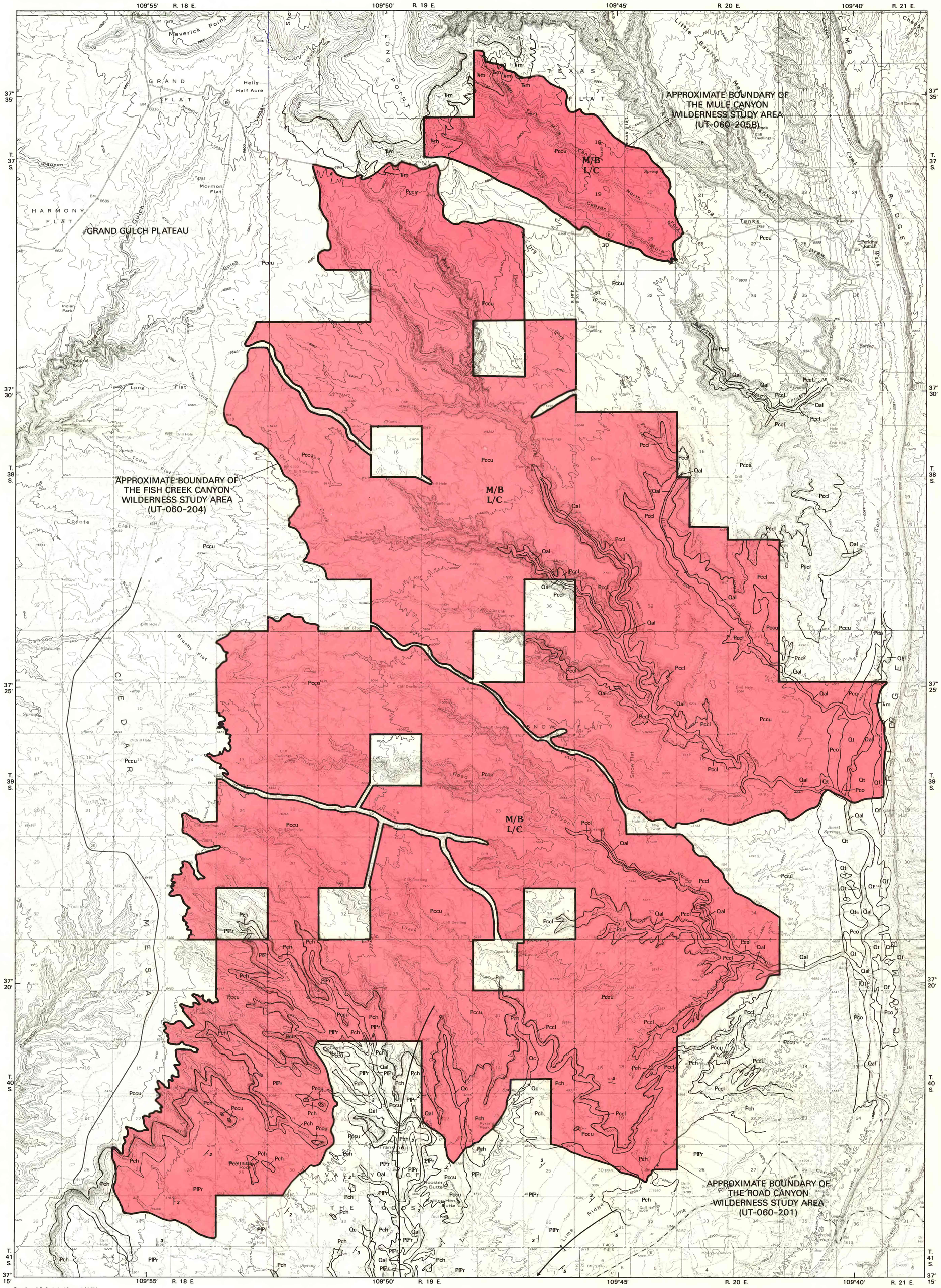
DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

BULLETIN 1755–B
PLATE 1



Base from U.S. Geological Survey 1:62,500
Bears Ears, 1954, Bluff, 1962, Brushy Basin Wash, 1957, Cedar Mesa, 1963

Geology mapped by D.J. Bove and D.R. Shawe, 1987–88

SCALE 1:62 500

1 ½ 0 1 2 3 4 MILES

1 .5 0 1 2 3 4 KILOMETERS

CONTOUR INTERVALS 40 AND 80 FEET
DATUM IS MEAN SEA LEVEL

APPROXIMATE MEAN DECLINATION, 1975

UTAH

EXPLANATION OF MINERAL RESOURCE POTENTIAL

M/B — **Geologic terrane having moderate mineral resource potential, with a certainty level of B, for undiscovered oil and gas. Applies to all three study areas**

L/C — **Geologic terrane having low mineral resource potential, with a certainty level of C, for all undiscovered metals, including uranium and thorium, and coal and geothermal energy. Applies to all three study areas**

Levels of certainty

B — **Available information only suggests the level of resource potential**

C — **Available information gives a good indication of the level of mineral resource potential**

CORRELATION OF MAP UNITS

Qal, Qc, Qf, Qt	Holocene(?) and Pleistocene(?)	QUATERNARY
Unconformity		
Trm	Middle(?) and Lower Triassic	TRIASSIC
Unconformity		
Pco, Pccu, Pccl, Pch	Lower Permian	PERMIAN
PIPr	Lower Permian to Middle Pennsylvanian	PERMIAN AND PENNSYLVANIAN

DESCRIPTION OF MAP UNITS

Qal — **Alluvium (Holocene? and Pleistocene?)**—Silt, sand, and gravel in stream valleys and flood plains

Qc — **Colluvium (Holocene? and Pleistocene?)**—Poorly sorted, silt- to boulder-size deposits on or beneath steep slopes or in broad valleys

Qf — **Allivial fan deposits (Holocene? and Pleistocene?)**—Coarse and fine, poorly sorted, locally derived material

Qt — **Stream-terrace deposits (Holocene? and Pleistocene?)**—Sand, silt, and gravel deposits on benches along major streams

Trm — **Moenkopi Formation (Middle? and Lower Triassic)**—Reddish-brown, evenly bedded, cross-laminated interbedded siltstone and fine-grained sandstone

Cutler Formation (Lower Permian)

Pco — **Organ Rock Tongue**—Reddish-brown, evenly bedded siltstone and sandy shale and minor sandstone

Pccu — **Upper part of Cedar Mesa Sandstone Member (Lower Permian)**—Generally persistent beds of yellowish-gray, fine to locally coarse grained sandstone with alternating thinner beds of brownish-red siltstone. Sandstone is typically tabular planar to wedge planar crossbedded. Grades southward along Comb Ridge into evaporite, gray-green and maroon gypsiferous siltstone, silty shale, and sandstone

Pccl — **Lower part of Cedar Mesa Sandstone Member**—Gray-green and locally red brown, thin beds of silty sandstone and silty mudstone. A thin, dark-brown to black, nonfossiliferous limestone bed commonly marks the transition between this unit and the overlying, massive upper part of Cedar Mesa Sandstone Member. May locally include the Rico Formation in the north part of the study area

Pch — **Halgaito Tongue**—Reddish-brown thin-bedded shaly siltstone and very fine grained sandstone. Contains a few beds of purplish-gray nonfossiliferous limestone near the base

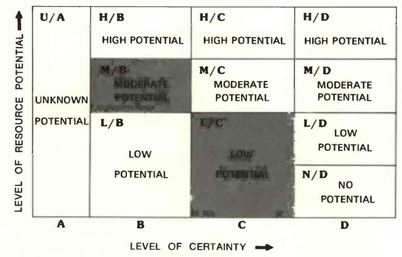
PIPr — **Rico Formation (Lower Permian to Middle Pennsylvanian)**—Light-gray, fossiliferous, thin- to thick-bedded limestone; reddish-brown and gray-green, fine- to medium-grained sandstone; and gypsiferous sandstone. Erodes to ledgy slopes. The Rico is in part equivalent to the Elephant Canyon Formation of Baars (1975)

Contact—Approximately located

Anticline—Showing trace of axial plane and direction of plunge

Syncline—Showing trace of axial plane and direction of plunge

Strike and dip of beds



LEVELS OF RESOURCE POTENTIAL	LEVELS OF CERTAINTY
H High mineral resource potential	**A** Available data not adequate
M Moderate mineral resource potential	**B** Data indicate geologic environment and suggest level of resource potential
L Low mineral resource potential	**C** Data indicate geologic environment, give good indication of level of resource potential, but do not establish activity of resource-forming processes
U Unknown mineral resource potential	**D** Data clearly define geologic environment and level of resource potential and indicate activity of resource-forming processes in all or part of the area
N No known mineral resource potential	

Diagram showing relationships between levels of mineral resource potential and levels of certainty. Shading shows levels that apply to this study area

MAP SHOWING MINERAL RESOURCE POTENTIAL AND GEOLOGY OF THE FISH CREEK CANYON, ROAD CANYON, AND MULE CANYON WILDERNESS STUDY AREAS, SAN JUAN COUNTY, UTAH